

SASKATCHEWAN DISEASE CONTROL LABORATORY NEWSLETTER

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NEWS FROM THE SASKATCHEWAN DISEASE CONTROL LABORATORY

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Attachments

- ◆ Viral Infections 2010
- ◆ Viral Infections 2011
- ◆ Cumulative Antimicrobial Susceptibility of Urine Isolates 2010
- ◆ Hours of Operation for 2011 Designated Holidays

SDCL Address:
5 Research Drive,
Regina, SK
S4S 0A4

Highlights of This Newsletter:

See Page 2 for an update from eHealth (formerly HISC) on the process to obtain laboratory results from the SDCL via the new electronic medical records (EMRs).

The SDCL lab results can be accessed through the Saskatchewan Laboratory Repository (SLLR) project, (No more fax machine malfunctions, no more phoning for results).

See page 2 for instructions on how to properly obtain throat and urine samples to submit for diagnosis of measles by PCR.

See page 4 for the new testing platform introduced for Vitamin D testing.

See page 5 an update on drugs of abuse screening.

Update *Yersinia enterocolitica*:

Yersinia enterocolitica is a Gram negative bacillus that causes diarrheal disease. It is best diagnosed by stool sample for C&S. If your local lab does not routinely culture for *Yersinia enterocolitica*, refer the sample to SDCL. The serologic test for diagnosis has been discontinued. This service is no longer available from the reference laboratory.

Enterovirus Season:

The enterovirus season is here. For diagnosis of acute infection with enterovirus, the preferred sample is either a nasopharyngeal swab submitted in viral transport medium, or a stool in a sterile plain container. For patients with meningitis include 1 mL of CSF in a sterile container, store at 4°C. There is no serological test available for diagnosis of enteroviral infection.

SDCL Compendium Update:

- The SDCL Compendium is available on-line.
- The Compendium can be accessed at <http://www.health.gov.sk.ca/compendium>
- The Compendium will be updated monthly.
- Paper copies are no longer available from the SDCL.



ELECTRONIC MEDICAL RECORDS

*"result of the
SLRR project."*

Electronic Medical Records (EMRs) (Update from e Health):

Saskatchewan clinicians are now able to securely view laboratory results via their electronic medical records (EMRs). This is a result of the Saskatchewan Laboratory Results Repository (SLRR) Project under the direction of eHealth Saskatchewan. At this time, 48 clinics and 163 providers receive laboratory results through their EMRs.

The vision of this project is to get the right information to the right individual at the right time in the right place. This will allow for improved:

- Privacy and confidentiality of a patient's test results.
- Quality of patient care through faster transmission of results to inform decision making.
- Patient experience through the coordination of service delivery; and,
- Overall efficiency and sustainability of the health care sector.

Currently SLRR receives approximately 84 per cent of all the laboratory test results processed within Saskatchewan from:

- Saskatchewan Disease Control Laboratory (SDCL)

- Regina Qu'Appelle Health Region
- Saskatoon Health Region
- Sunrise Health Region

If you began receiving electronic laboratory results prior to the implementation of any of the above listed sources, then changes will be implemented within the next year to ensure your EMR receives results from all sources.

Benefits for clinics include:

- Laboratory results are received within minutes of the results being completed.
- Administrative duties associated with paper laboratory results have been significantly reduced.
- In less than a week, 90 per cent of clinics receiving results through their EMR asked to no longer receive paper results.

Clinics interested in receiving Electronic Laboratory Results via their EMR should contact their EMR Program Change Management Advisor.

If you do not have an EMR please submit an Expression of Interest found on the SMA website at www.sma.sk.ca or contact Sherry Kossakowski at sherryk@sma.sk.ca.

DIAGNOSIS OF MEASLES BY PCR

*" recent cases of
measles in
Saskatchewan."*

Diagnosis of Measles by PCR:

There have been recent cases of measles in Saskatchewan. Consider patients with fever 38.3°C or greater, cough, coryza or conjunctivitis and generalized maculopopular rash for at least 3 days, in the absence of recent (1-14 days) measles (MMR) vaccination.

Submitting sera for IgM serology and also submit samples for molecular detection.

Specimen: Urine (collected within 7 days of rash onset), nasopharyngeal swab (collected within 4 days of rash onset), or throat swab (collected within 4 days of rash onset).

Collection Method: Collect a minimum of 50 mL of urine in sterile container. For swabs, use sterile swabs to swab the throat or nasal passages to collect epithelial cells.

Place nasopharyngeal and throat swabs in 2-3 mL viral transport medium (VTM).

Specimen Processing, Storage, and Shipping: Process urine by centrifuging at 2500 x g for 15 minutes at 4°C. Resuspend the sediment in 2.0 mL VTM and freeze at -70°C. Nasopharyngeal and throat swabs - leave in VTM and freeze at -70°C. Ship specimens frozen on dry ice as Biological Substance, Category B. UN3373. If specimen can be shipped within one day of collection, do not freeze and ship processed specimen on wet ice.



ANA TEST

ANA (Antinuclear antibodies) Test:

The ANA test has been around for forty years in various formats. It has become the "go to" test when clinicians ask "can this patient have systemic rheumatic disease or collagen vascular disease?"

The test results for the autoantibodies done are insufficient to establish the diagnosis of a systemic rheumatic disease; they must always be interpreted in the clinical context.

Because of the high sensitivity of ANA for SLE, almost all patients with SLE have a positive ANA test. However, due to the low prevalence of SLE in the general population most people with a positive ANA do not have SLE. About 10-15% of the general population has a positive ANA, which increases with age.

In addition, a positive ANA can be seen in healthy individuals, particularly the elderly, who never develop connective tissue disease (CTD). Positive ANA can also be seen in a wide range of diseases other

than CTD, such as infectious diseases. It has no diagnostic or prognostic value.

The next updated test platform is an ANA screen. If the ANA screen is positive the sample will be screened for the following:

- Anti-ds DNA quantitative
- anti-SS-A (52 and 60)
- Anti-SS-B
- Anti-Sm
- Anti-RNP
- Anti-Scl-70
- Anti-Jo-1

The ANA Hep2 IFA is available upon phone request by the physician to (306) 787-2964. This test is more sensitive, but has a lower specificity for lupus.

For further information regarding this test, please contact Jim Putz, Section Manager, Immunoserology at (306) 787-4948.

SYPHILIS TESTING

Updated

Syphilis Testing:

SDCL's syphilis testing algorithm has been updated. The new algorithm will continue to use an initial EIA screen, followed by another treponemal confirmation test (TPPA) and a non-treponemal test (RPR). Reactive RPR results are further titrated, to give therapeutic information. While most samples will be reported with initial IgG treponemal antibody screen, IgM treponemal testing will be performed under the following circumstances:

- all IgG positive and indeterminate results
- samples flagged primary syphilis or chancre
- an outbreak investigation
- serum samples from all infants <18 months of age

All samples reactive by IgG and TPPA with or without RPR reactivity are reported to the regional Medical Health Officer.

A four-fold rise or fall in RPR titre is consistent with active syphilis. The RPR cannot be used to diagnose neurosyphilis. To rule out neurosyphilis in symptomatic patients, the best test is CSF for VDRL. Syphilis treatment (benzathine penicillin IM) is available from public health.

The Canadian STI guidelines recommend universal screening in first trimester of pregnancy, and in women at high risk of acquiring syphilis, testing should be repeated at 28 - 32 weeks.

Any women delivering a stillborn infant at >20 weeks gestation should be screened for syphilis. If a mother did not have syphilis serology undertaken during pregnancy, then it should be arranged after delivery, before discharge.

For further information regarding this new test, or our testing algorithm, please contact Jim Putz, Section Manager of Immunoserology, at (306) 787-4948.



CHANGES TO VITAMIN D TESTING

*"Effective
immediately"*

Changes to Vitamin D Testing at SDCL:

Effective immediately SDCL will be providing 25-hydroxy-vitamin D3 analysis by an immunoassay technique instead of mass spectrometry.

The demand for vitamin D testing has increased so significantly that it is beyond our current capacity to provide this testing using LC-MS/MS methodology.

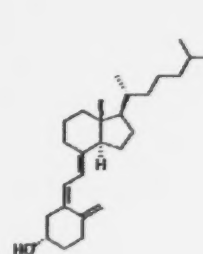
We will still maintain this testing capability; however, it will be reserved for cases where patients are supplementing specifically with prescription vitamin D2 supplements.

Mass spectrometry is the only method that can reliably differentiate between the vitamin D3 species (animal form) and the vitamin D2 species (plant form). Since vitamin D2 has approximately 35 % of the bioavailability of vitamin D3, it is important to know if it is a major component of the measured 25-OH-vitamin D concentration.

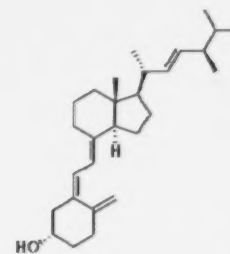
Immunoassay techniques cannot differentiate between forms of vitamin D metabolites and concentrations are expressed as total 25-OH-vitamin D3.

Immunoassay is a reliable method for determining vitamin D status, where patients are not supplementing with prescription vitamin D2 supplements. **Almost all food additives and over the counter supplements are vitamin D3. For these reasons less than 3 % of the Saskatchewan population requires testing by mass spectrometry.**

Specimen collection, storage and shipping remain unchanged. Reports will indicate a change in methodology; however, reference ranges will remain the same. The immunoassay technique being used, displays excellent correlation to mass spectrometry.



Cholecalciferol
(Vitamin D3)



Ergocalciferol
(Vitamin D2)

Clinicians now have two choices for ordering on the newest requisition (Health 13-190 04/11).

1. Vitamin D status (Combined Total D2 and D3) - appropriate in 95% of cases.
2. Vitamin D levels for individuals supplementing with Vitamin D2 (plant form).

For more information please contact:
Michele Etter 787-3196 or
Jeff Eichhorst 787-3284



DRUGS OF ABUSE SCREENING - UPDATE

Drugs of Abuse Screening - Update

In late 2010, SDCL implemented screening for gabapentin (a prescription antiepileptic) as part of our standardized panel of drugs of abuse. This drug was added since we had had information from clinicians, specifically in Northern Saskatchewan suggesting gabapentin had

a high abuse potential. In the first 2 months of screening (Sept. - Oct., 2010), data suggests as high as 30% of patients being screened for drugs of abuse in drug treatment programs, screen positive for gabapentin.

Our standard panel of drugs tested on SDCL screen includes the following:

7-amino-Clonazepam	Flunitrazepam	Morphine
7-amino-Flunitrazepam	Flurazepam	Nordiazepam
a-Hydroxy-Alprazolam	Gabapentin	Norfentanyl
Alprazolam	Hydrocodone	Normeperidine
Amphetamine	Hydromorphone	Oxazepam
Benzoyllecognine	Ketamine	Oxycodone
Clonazepam	Lorazepam	PCP
Cocaine	MDA	Pseudoephedrine
Codeine	MDEA	Ritalinic Acid
Des-alkyl-Flurazepam	MDMA	Temazepam
Diazepam	Meperidine	THC-COOH (cannabinoids)
Diphenhydramine	Methadone	Triazolam
EDDP	Methamphetamine	
Fentanyl	Methylphenidate	

Other drugs are available upon request

CLIENT REMINDERS



CMV Viral Load Specimens:

CMV Viral Load specimens must be centrifuged and refrigerated before they are shipped to SDCL.

Hospitals In Common Changes:

As requested by Hospitals In Common, please freeze and ship to ensure the following specimens remain frozen while in transport:

- Free Light Chains
- Acetylcholine Receptor Antibody
- Thyroid Receptor Antibody (TBII)



CONTACTS NUMBERS



Which
Phone
Number?

**REMEMBER
CALL
787-3131
for
information
from the
SDCL**

PAPER REQUESTS

The Saskatchewan Disease Control Laboratory (SDCL) phone tree (306) 787-3131 has been created to help assist with timely response to client inquiries. Provided is a list of the tree numbers and information that clients will access when choosing a number.

Hours of Operation: 8:00 a.m. to 5:00 p.m. Monday to Friday
7:30 a.m. to 4:00 p.m. Saturday
Evenings and Weekend Emergency and After Hours Service, see #8 for cell numbers.

Press 1: Test Results or to arrange STAT Testing

Identify who you are, institution and if you are calling for:

- Lab results;
- Specimen receipt and/or status;
- STAT testing (organ donors or needle stick exposure), call will be transferred to the appropriate section; or
- Requests for technical information, call will be transferred to appropriate section.

Press 2: Compendium Information (listen only) - To access the on-line compendium go to www.health.gov.sk.ca/compendium.

Press 3: Out of Province or Country Referrals - For information on tests referred out-of-province or country.

Press 4: Exceptions to Provide Missing Information - To provide missing specimen information that has been requested by SDCL staff.

Press 5: Maternal Serum Screening - For results on maternal serum screening samples submitted.

Press 6: Water Samples - For results on water samples submitted.

Press 7: Shipping and Supplies - For example, requests for requisitions or transport media such as SAF, Carey Blair or viral for specimens submitted to the Saskatchewan Disease Control Laboratory.

Press 8: Emergency and After Hours Service (Evenings and Weekend) (listen only)

STAT Toxicology	536-4653
STAT Serology/Prenatal results, organ donor testing & occupational exposure to blood borne pathogens	537-0639

If you wish to repeat this menu please stay on the line.

Paper Requests:

- Laboratory does not accept verbal test requests and requires you to fax in a request/requisition for any additional testing.
- If patient cannot be identified, as in "circle of care" then we require a "signed release of medical information form" faxed to us at (306) 787-9122.

REMEMBER Call (306) 787-3131 for information from the Saskatchewan Disease Control Laboratory.



Laboratory Evidence of Human Viral Infections - Positive Findings 2010

Date	Adenovirus	Astro/Calicivirus	Coronavirus	Coxsackie virus	CMV	EBV	Echovirus	Enterovirus (not typed)	Entero/Rhinovirus	HAV	HBV	HCV	HIV-1	HSV-1	HSV-2	Influenza A	Pandemic (H1N1) 2009	Influenza B	hMPV	Molluscum contagiosum	Norovirus	Parainfluenza	Parvovirus	RSV	Rotavirus	Vancella zoster	WNV
Jan-10	26	2		2	3	9		2			5	56	23	11	20		1		10		38	19	12	13	9	4	
Feb	18	1			2	5		2			12	62	14	8	8				51			10	15	46	21	6	
Mar	13	2	3		5	18		1	1	1	14	66	26	15	6				94	1	20	14	12	99	114	7	
Apr	8				2	6				2	9	82	30	18	11				25		28	8	20	64	137	4	
May	11				1	10				2	8	53	28	13	11				12		8	14	7	52	58	7	
June	6				1	11			1	2	7	73	26	14	19				2		8	13	4	2	26	11	
July	9		1	2		2		4		1	8	54	23	12	16						15	16	5	14	1	9	
Aug	9			3	2	9		4	18	1	5	55	24	17	11						4	10	5	5		5	2
Sept	12			6			2	7	1	1	12	83	20	17	9						9	5	2	3		1	
Oct	15			3	3	11	1	7	29		5	59	13	16	11						10	19	1	3		10	
Nov	17				2	5			11	2	8	58	22	21	15	3		3			30	23	2	6	2	4	
Dec	26	1	14	1	2	7		3	3		12	40	20	17	8	7					108	28	2	33	2	5	
Totals	170	6	18	17	23	93	3	30	64	12	105	741	269	179	145	10	1	3	194	1	278	179	87	340	370	73	2

Laboratory Evidence of Human Viral Infections - Positive Findings 2011

Date	Adenovirus	Astro/Calicivirus	Coronavirus	Coxsackie virus	CMV	EBV	Echovirus	Enterovirus (not typed)	Entero/Rhinovirus	HAV	HBV	HCV	HIV-1	HSV-1	HSV-2	Influenza A	Pandemic (H1N1) 2009	Influenza B	hMPV	Molluscum contagiosum	Norovirus	Parainfluenza	Parvovirus	RSV	Rotavirus	Rubella	Varicella zoster	WNV
Jan-11	32		11	1	2	7		1		1	9	57	23	25	15	62	5		1		113	44	3	158	13		5	
Feb	16		5		1	5			7	2	6	59	25	29	9	88	22		4		58	17	4	241	22		4	
Mar	24				6	8				4	9	69	29	15	14	41	12	12	2		29	23	10	150	45		3	
Apr																												
May																												
June																												
July																												
Aug																												
Sept																												
Oct																												
Nov																												
Dec																												
Totals	72	0	16	1	9	20	0	1	7	7	24	185	77	69	38	191	39	12	7	0	200	84	17	549	80	0	12	0

Cumulative Antimicrobial Susceptibility of Urine Isolates (January- December 2010)

Percent sensitive to:

	No. of isolates	Ampicillin	Aminoxycillin/Clavulanate	Cephalothin	Cefazolin	Cefuroxime	Ceftriaxone	Trimethoprim/Sulphamethoxazole	Piperacillin	Gentamicin	Tobramycin	Ciprofloxacin	Nitrofurantoin	Vancomycin	Oxacillin
<i>Escherichia coli</i>	3226	52	56	54	83	87	92	72	54	91	90	83	97	na	na
<i>Klebsiella pneumoniae</i>	328	8	88	86	95	92	99	94	73	100	99	98	59	na	na
<i>Proteus mirabilis</i>	131	93	93	92	92	98	98	90	95	93	96	94	<1	na	na
<i>Citrobacter freundii</i> complex	74	59	68	3	18	78	91	85	78	99	99	93	89	na	na
<i>Enterobacter cloacae</i>	67	25	42	1	9	43	90	88	85	100	100	93	48	na	na
<i>Morganella morganii</i>	37	0	5	0	5	8	100	73	72	81	95	78	0	na	na
<i>Pseudomonas aeruginosa</i>	95	na	na	na	na	na	53	na	na	89	100	81	na	na	na
<i>Staphylococcus aureus</i>	118	16	64	na	65	na	65	99	na	97	na	57	99	na	65
<i>Enterococcus faecalis</i>	892	100	na	na	na	na	na	na	na	na	na	77	99	100	na

na = not applicable

SASKATCHEWAN DISEASE CONTROL LABORATORY HOURS OF OPERATION FOR 2011 DESIGNATED HOLIDAYS

Designated Holiday Observed	Molecular Diagnostics*	Immunology*	Microbiology	Chem – Tox-Endo*	Virology	Environmental	SMC	Materials Management	Administrative Support	IT*	Quality Management
New Year's** Jan 03/11	Closed	Closed	Closed	Closed	Closed	Closed	Reduced Staff 8:00-12:00	Closed	Closed	Closed	Closed
Family Day Feb 21/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff 8:00-12:00	Reduced Staff 11:00 to 1:00	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Good Friday April 22/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff 8:00-12:00	Reduced Staff 11:00 to 1:00	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Victoria Day May 23/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff- 8:00-12:00	Closed	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Canada Day Jul 01/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff- 8:00-12:00	Closed	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Floating Holiday July 29/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff 8:00-12:00	Reduced Staff 10:00 to 2:00	Reduced Staff 7:15-4:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Sask. Day Aug 01/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff- 8:00-12:00	Closed	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Labour Day Sep 05/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff 8:00-12:00	Closed	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Thanksgiving Oct 10/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff- 8:00-12:00	Closed	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Remembrance Day Nov 11/11	No staff scheduled	No staff scheduled	Reduced Staff 8:00-12:00	No staff scheduled	Reduced Staff- 8:00-12:00	Reduced Staff 11:00 to 1:00	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled
Christmas Day** Dec 27/11	Closed	Closed	Reduced Staff- 8:00-12:00	Closed	Reduced Staff- 8:00-12:00	Closed	Reduced Staff 8:00-12:00	Closed	Closed	No staff scheduled	No staff scheduled
Boxing Day Dec 26/11	No staff scheduled	No staff scheduled	Reduced Staff 2 hours	No staff scheduled	Reduced Staff- 8:00-12:00	Reduced staff 8:00-12:00	Reduced Staff 8:00-12:00	No staff scheduled	No staff scheduled	No staff scheduled	No staff scheduled

* Indicates that there are further comments about the department below.

Molecular Diagnostics – On call for WNV PCR (seasonal) and for cell, tissue & organ transplant.

Immunology – One staff member on call 24/7 for needlestick, transplant or approved Stats.

Chem/Tox/Endo/Neonatal – Toxicology is on call. Concerns or requests for chemistry and for newborn screening can be directed to Jeff Eichhorst @ 533-3046

IT Office – On call from 8:00 to 4:00 on all designated holidays.

****Note:** New Year's Day – Actual date: January 1, 2011, observed on January 3, 2011; Christmas Day – Actual date: December 25, observed on December 27, 2011